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National Healthcare Safety Network (NHSN) Report, Data Summary for 2012, Device-associated Module

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Background

This report is a summary of Device-associated (DA) Module data collected by hospitals participating in the National Healthcare Safety Network (NHSN) for events occurring from January through December 2012 and reported to the Centers for Disease Control and Prevention (CDC) by July 1, 2013. This report updates previously published DA Module data from NHSN and provides contemporary comparative rates.[1] Figure 1 provides a brief summary of key findings from this report. This report complements other NHSN reports, including national and state-specific reports of standardized infection ratios (SIRs) for select healthcare-associated infections (HAIs).[2, 3]

NHSN data collection, reporting, and analysis are organized into four components: Patient Safety, Healthcare Personnel Safety, Biovigilance, and Long-term Care, and use standardized methods and definitions in accordance with specific module protocols.[4,5,6,7] Institutions may use modules singly or simultaneously, but once selected, they must be used for a minimum of one calendar month for the data to be included in CDC analyses. All infections are categorized using standard CDC definitions that include laboratory and clinical criteria.[5–7] The DA Module within the Patient Safety Component may be used by facilities other than general acute care hospitals, including inpatient rehabilitation facilities (IRFs) and long term acute care hospitals (LTACHs). NHSN facilities contributing HAI surveillance data to this report did so voluntarily, in response to state mandatory reporting requirements or in compliance with the Centers for Medicare and Medicaid Services' (CMS's) Quality Reporting Programs.[8,9] CDC aggregated these data into a single national database for 2012, consistent with the stated purposes of NHSN, which are to:

- Collect data from a sample of healthcare facilities in the United States to permit valid estimation of the magnitude of adverse events among patients and healthcare personnel.

The findings and conclusions of the report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

- Collect data from a sample of healthcare facilities in the United States to permit valid estimation of the adherence to practices known to be associated with prevention of these adverse events.
- Analyze and report collected data to permit recognition of trends.
- Provide facilities with risk-adjusted metrics that can be used for inter-facility comparisons and local quality improvement activities.
- Assist facilities in developing surveillance and analysis methods that permit timely recognition of patient and healthcare worker safety problems and prompt intervention with appropriate measures.
- Conduct collaborative research studies with NHSN member facilities (e.g., describe the epidemiology of emerging healthcare-associated infection [HAI] and pathogens, assess the importance of potential risk factors, further characterize HAI pathogens and their mechanisms of resistance, and evaluate alternative surveillance and prevention strategies).
- Comply with legal requirements – including but not limited to state or federal laws, regulations, or other requirements – for mandatory reporting of healthcare facility-specific adverse event, prevention practice adherence, and other public health data.
- Enable healthcare facilities to report HAI and prevention practice adherence data via NHSN to the U.S. Centers for Medicare and Medicaid Services (CMS) in fulfillment of CMS's quality measurement reporting requirements for those data.
- Provide state departments of health with information that identifies the healthcare facilities in their state that participate in NHSN.
- Provide to state agencies, at their request, facility-specific, NHSN patient safety component and healthcare personnel safety component adverse event and prevention practice adherence data for surveillance, prevention, or mandatory public reporting.

Patient- and facility-specific data reported to CDC are kept confidential in accordance with sections 304, 306, and 308(d) of the Public Health Service Act (42 USC 242b, 242k, and 242m(d)).

Methods

Data Collection Methods

For reporting to the DA Module, healthcare facility personnel responsible for infection prevention and patient safety may choose, with consideration of state mandates, federal reporting programs, and prevention initiatives, to collect data on central line-associated bloodstream infections (CLABSI), ventilator-associated pneumonias (VAP), or urinary catheter-associated urinary tract infections (CAUTI) that occur in patients staying in a patient care location such as a critical or intensive care unit (ICU), specialty care area, or inpatient ward. In NHSN, locations are further stratified according to patient population: adults, children, or neonates (in tables, pediatric and neonatal locations are so noted). In

neonatal intensive care unit (NICU) locations (level III or level II/III), infection preventionists (IPs) collect data on CLABSI or VAP that occur in patients in each of five birth-weight categories (≤750 g, 751–1000 g, 1001 – 1500 g, 1501 – 2500 g, and >2500 g); data on CAUTI are not collected as part of the NHSN protocols in any NICU location. Corresponding location-specific denominator data consisting of patient-days and specific device-days are also collected by IPs or other trained personnel.

In non-NICU locations, the device-days consist of the total number of central line-days, urinary catheter-days, or ventilator-days. For specialty care areas and oncology units, such as hematology/oncology and hematopoietic stem cell transplant locations, central line-days are split into those with only a permanent central line vs. those with temporary central lines (with or without a permanent central line). In NICU locations, the device-days consist of the total number of central line-days (inclusive of umbilical catheters), or ventilator-days for each birth-weight category.

Data Analysis Methods

Compared to the previous report, five new locations – gastrointestinal ward, pediatric orthopedic ward, inpatient hospice ward, solid tumor ward, and pediatric inpatient rehabilitation facility– had sufficient data to be included in this report.[1]

Locations were further stratified by facility type, unit bed size and/or major teaching status to determine if pooled mean rates, medians, and empirical distributions significantly differed between two groups for all DA infections; if differences were present, the strata were retained for reporting. Comparisons of pooled mean rates were performed using Poisson regression. These comparisons could be influenced by potential outlier rates from locations with disproportionately large denominators. Therefore, greater weight was given to the results of nonparametric tests comparing the medians for location shift and empirical distributions for assessing differences across the range of reported rates. These nonparametric comparisons by definition require no validity assumptions and provide test results that are not subject to the potential weighting influence of high or low rates with large denominators. Comparisons of the pooled mean, median and percentile distribution were made if there were at least 50 locations contributing to one or more strata and at least 20 locations contributing to the percentile distribution in both strata.

Existing strata were retained for adult combined medical/surgical ICUs, medical ICUs, and surgical ICUs. The data for adult combined medical/surgical ICUs were split by medical school affiliation and unit bedsize, resulting in three groups: “major teaching,” “all others” with unit bedsize ≤15 beds, and “all others” with unit bedsize >15. The data for adult medical ICUs and adult surgical ICUs were split into two groups by teaching status. Hospitals self-identified their teaching hospital status through the annual NHSN facility survey. A major teaching hospital was defined as a hospital that has a program for medical students and post-graduate medical training. Locations within critical access hospitals (CAHs) were compared to their counterparts in all other acute care hospitals. The statistical evidence indicated that there was a significant difference in these strata and therefore, data from CAHs have been reported separate from all other location types. Adult hematology/oncology locations were also evaluated to assess importance of status as an oncology

hospital, but differences were not significant and no new strata for this population were retained.

Device utilization (DU) was calculated as a ratio of device-days to patient-days for each location type. As such, the DU of a location is one measure of the use of invasive devices and constitutes an extrinsic risk factor for healthcare-associated infection.[10] DU may also serve as a marker for severity of illness of patients (i.e. more severely ill patients are more likely to require an invasive device) which is another reflection of the intrinsic susceptibility to infection.

Data from at least 5 different reporting units of a given location type were used to determine pooled mean DA infection rates and DU ratios. Percentile distributions were determined if there were data from at least 20 different locations, excluding rates or DU ratios for locations that did not report at least 50 device-days or patient-days. Because of these requirements, the number of locations contributing data may vary among the tables.

Results

In 2012, 4,444 enrolled facilities reported at least one month of DA denominator data for some patient cohorts under surveillance. These 4,444 facilities were located in 53 states, territories, and the District of Columbia and were predominantly general acute care hospitals (Table 1); 27% of all facilities that reported data were smaller organizations of 50 beds or less, comprised mostly of acute care hospitals that were not identified as critical access. Among LTACHs and IRFs, 59% and 86%, respectively, were categorized as physically free-standing from a hospital setting. Where data volume was sufficient for this report, we tabulated DA infection rates and DU ratios for January through December 2012 (Tables 3–10). Data on the specific criteria used to report DA infections are provided in Tables 11–18.

Tables 3–6 update and augment previously published DA rates and DU ratios by type of non-NICU locations.[1] Based on results of statistical comparisons, data from CAHs are reported separately from all other acute care hospitals. These data are further stratified into combined critical care units and combined non-critical care units.

Tables 7–10 update and augment the previously published DA rates and DU ratios by birth-weight category for NICU locations.[1] Beginning in January 2012, CLABSI data in NICU locations were no longer collected according to central line type (i.e., central line and umbilical catheter); therefore, CLABSI rates and DU ratios for NICUs are not stratified by line type in this report.

Tables 11–18 provide data on select attributes of the DA infections for each location. For example, Tables 11, 12, 15 and 16 show the frequency and percent distribution of the specific sites of CLABSI and the criteria used for identifying these infections. Note that for these tables, criteria 2 and 3, which involve common commensals only, have been combined.

Discussion

This report summarizes the HAI data reported to the DA module of NHSN during 2012.Compared to the healthcare facility types for which HAI data were summarized in the last published report, in this report there is a slight increase in smaller hospitals, IRFs, and LTACHs.[1] Based on the number of facilities reporting, overall contribution from all facility types to the device-associated module increased by 15% from the last report.[1] This increase in reporting is largely attributable to healthcare facilities' participation in CMS's Quality Reporting Programs which require participants to use NHSN as the tool to report CLABSI data from all acute care hospital adult, pediatric, and neonatal ICUs (effective as of January 2011)and all LTACH locations, as well as CAUTI data from all acute care hospital adult and pediatric ICUs, and all LTACH and IRF locations (effective as of January 2012).[8,9] While this growth impacted the volume of reporting in these designated settings, there is also an indication of increased participation in ward locations for CLABSI and CAUTI surveillance.

Extensive analyses of the impact of facility type and medical school affiliation on all DA infection rates were performed for select locations. Medical school affiliation continues to be a significant factor for all three DA infection rates and/or percentile distributions in medical ICUs and surgical ICUs. All DA infection rate pooled means in this report continue to be higher in those locations stratified as major teaching compared to their non-major teaching counterparts. This suggests room for targeted prevention efforts in these settings that care for higher complexity patients. Additionally, medical school affiliation and bed size both continue to be significant factors in DA infection rates for medical/surgical ICUs. Note that while the CLABSI rates between unit bedsize strata in medical/surgical "all other" ICUs are equal (Table 3), the percentile distributions were shown to be significantly different as a result of nonparametric statistical tests. Therefore, this stratification by unit bedsize in "all other" medical/surgical ICUs was retained. Adult hematology/oncology locations were not further stratified by hospital type (i.e., oncology hospital vs. all other acute care hospitals) as the results of the statistical tests indicated that the differences in the strata were not statistically significant. In 2013, oncology and general acute care hospitals were provided with fourteen oncology-specific CDC locations with which to identify for device-associated infection surveillance. As the volume of these data become sufficient, future analyses will continue to assess any potential differences in this specialized population.

In 2012, facilities participating in NHSN were able to designate themselves as CAHs. This information allowed for the comparison of DA rates and DU ratios in these hospitals to all other hospitals. The results of the statistical tests indicated that DA rates and DU ratios in CAHs are significantly different from all other hospitals and therefore, CAHs are now able to compare themselves to pooled means generated from like-hospitals. This allows for more targeted prevention efforts in this unique setting.

In producing this report, there were several areas identified for which prevention activities and further investigation may be needed, both at the national and local levels. For example, the CLABSI pooled mean rate for LTACH critical care units is higher than most other critical care unit types (Table 3). Similarly, the CAUTI pooled mean rate for LTACH wards

is higher than CAUTI pooled mean rates in the majority of other ward-level locations (Table 5). Further, when compared to the previous report, CAUTI rates have increased in every critical care unit type, with the exception of "Surgical critical care – all others" (Table 5).[1] Additional key findings from this report can be found in Figure 1.

Tables 11–18 were included to aid the reader in interpreting the DA infection rates data. One important use of data in these tables is to better understand the distribution of DA infections by type of reporting criterion nationally. For example, nearly 85% of the CLABSIs from adult and pediatric ICUs and inpatient wards were identified using criterion (1) which attributes the CLABSI to a recognized pathogen; however, for NICUs, only 70% used this criterion, resulting in a greater percentage of CLABSIs in this population that were identified with common commensals. Similarly, the specific type of ventilator-associated pneumonia (VAP) most frequently reported, regardless of location, was the clinical criterion (PNU1) which relies on the somewhat subjective interpretations of clinical findings.

As diverse types of facilities continue to participate in NHSN, either voluntarily or by mandate, the need for careful scrutiny of the data increases. NHSN will continue to assess how changing facility composition and changes in the proportion of data contributed by facility types impact the rates and their distributions so that the best possible risk-adjusted comparative data may be provided in future reports.

To improve the reliability of data reported to NHSN, several protocol changes were introduced in January 2013. The majority of these changes were with respect to timing and implementation of two-day rules to clarify infections that are healthcare-associated, association of device use to HAI, and attribution of HAI to an inpatient location after transfer or to a hospital after discharge. In addition, NHSN added criteria for mucosal barrier injury laboratory-confirmed bloodstream infections, which have not been removed or accounted for separately in this report. Finally, the VAP definition no longer applies to adult patients (i.e., ≥ 18 years of age) and this definition has been replaced by ventilator-associated events (VAEs).[11] We will carefully assess the potential impact of these changes on HAI incidence as these data are reported.

For those who do not report to NHSN but would like to use these data for comparison, the information must first be collected from your hospital in accordance with the methods described for NHSN.[5–7] Refer to Appendices A and B for further instructions. Appendix A discusses the calculation of infection rates and DU ratios for the DA Module. Appendix B gives a step-by-step method for interpretation of percentiles of infection rates or DU ratios. Although a high rate or ratio (>90th percentile) does not necessarily define a problem, it does suggest an area for further investigation. Similarly, a low rate or ratio (<10th percentile) may be the result of inadequate infection detection.

Facilities should use the data in this report and their own data to guide local prevention strategies and other quality improvement efforts to reduce the occurrence of infections as much as possible. The data presented in this report can be used to prioritize prevention efforts in those patient care areas that are shown to have the highest incidence of DA infections and/or high device utilization. Facilities may also wish to set targets based on the

percentile distributions provided in this report in an effort to strive for lower rates and greater prevention success.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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NHSN Education and Data Quality Assurance Team

NHSN Development Team

NHSN Protocol and Public Reporting Team

NHSN Statistics Team

NHSN User Support Team

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- Greater diversity in the types of facilities reporting to NHSN with growth in the number of Long Term Acute Care Hospitals (LTACHs) and Inpatient Rehabilitation Facilities (IRFs) (Table 1).
- Nearly 18% of all facilities contributing to this report are acute care hospitals with 50 beds or less (Table 2).
- This report includes pooled means specific to Critical Access Hospitals (CAHs), allowing for targeted prevention efforts in this setting.
- All Device-associated (DA) rates continue to be higher in major teaching locations (where stratified) than in non-major teaching counterparts.
- Rates in Burn critical care (CC) locations continue to be higher than all other CC location types for all DA event types (Tables 3, 5, and 6).
- When compared to the previous report, CAUTI rates have increased in every critical care location type, with the exception of Surgical CC – All others (Table 5).
- In reviewing the percentile distributions for each event type, collectively, CAUTI rates have the widest distributions, and nearly all of the 90th percentiles are > 3.0/1,000 urinary catheter days (Table 5).
- CLABSI pooled mean rates and central line device utilization (DU) ratios in LTACH critical care units are higher than almost all other critical care location types (Table 3) in all facility types.
- CAUTI pooled mean rates and urinary catheter DU ratios in LTACH Ward units are higher than almost all other ward location types (Table 5).
- The CAUTI pooled mean rate is significantly higher in CAH non-critical care units than in CAH critical care units ($p<0.0001$) (Table 5).
- VAP rates are higher in Level 2/3 NICUs than Level 3 NICUs, in each birth weight category (Tables 9-10).

Figure 1.
Highlights from this report

Table 1

NHSN facilities contributing data used in this report

Hospital type	N (%)
Children's	70 (1.6)
Critical access	324 (7.3)
General, including acute, trauma, and teaching	3,200 (72.0)
Long-term acute care	465 (10.5)
Military	34 (0.8)
Oncology	12 (0.3)
Orthopedic	14 (0.3)
Psychiatric	10 (0.2)
Rehabilitation	237 (5.3)
Surgical	51 (1.1)
Veterans' Affairs	12 (0.3)
Women's	6 (0.1)
Women's and Children's	9 (0.2)
Total	4,444

Table 2

Enrolled NHSN facilities contributing data used in this report by facility type and bedsize

Facility type	Bed size category				Total N (%)
	≤ 50	51–200	201–500	> 500	
	N (%)	N (%)	N (%)	N (%)	
Acute care hospitals	**802 (18.0)**	**1,596 (35.9)**	**1,086 (24.4)**	**258 (5.8)**	**3,742 (84.2)**
Major teaching	16 (0.4)	99 (2.2)	215 (4.8)	145 (3.3)	475 (10.7)
Graduate teaching	33 (0.7)	202 (4.5)	238 (5.4)	55 (1.2)	528 (11.9)
Undergraduate teaching	16 (0.4)	63 (1.4)	38 (0.8)	3 (0.1)	120 (2.7)
Nonteaching	737 (16.6)	1,232 (27.7)	595 (13.4)	55 (1.2)	2,619 (58.9)
Long term acute care hospitals	**274 (6.2)**	**181 (4.1)**	**10 (0.2)**	**0 (0.0)**	**465 (10.5)**
Free-standing	104 (2.3)	161 (3.6)	9 (0.2)	0 (0.0)	274 (6.2)
Within a hospital	170 (3.8)	20 (0.5)	1 (0.0)	0 (0.0)	191 (4.3)
Inpatient rehabilitation facilities	**102 (2.3)**	**131 (2.9)**	**3 (0.1)**	**1 (0.0)**	**237 (5.3)**
Free-standing	82 (1.8)	118 (2.6)	3 (0.1)	1 (0.0)	204 (4.6)
Within a healthcare facility*	20 (0.5)	13 (0.3)	0 (0.0)	0 (0.0)	33 (0.7)
Total	1,178 (26.5)	1,908 (42.9)	1,099 (24.7)	259 (5.8)	4,444

Major: Facility has a program for medical students and post-graduate medical training.
Graduate: Facility has a program for post-graduate medical training (i.e., residency and/or fellowships).
Undergraduate: Facility has a program for medical students only.
Free-standing/within a hospital or healthcare facility: Describes physical placement of LTACH or IRF and does not define financial or administrative relationship with other healthcare facility types.

*does not include inpatient rehabilitation facilities reporting to NHSN as locations within enrolled acute care hospitals.

Table 3

Pooled means and key percentiles of the distribution of laboratory-confirmed central line-associated BSI rates and central line utilization ratios, by type of location, DA module, 2012

Central line-associated BSI rate*					Percentile				
Type of Location	**No. of locations†**	**No. of CLABSI**	**Central line-days**	**Pooled mean**	**10%**	**25%**	**50% (median)**	**75%**	**90%**
Acute Care Hospitals									
Critical Care									
Burn	73 (72)	265	78,825	3.4	0.0	0.7	2.2	5.2	9.3
Medical -Major teaching	231 (230)	792	625,053	1.3	0.0	0.5	1.1	1.9	2.8
Medical -All other	459 (433)	684	627,374	1.1	0.0	0.0	0.5	1.5	2.9
Medical cardiac	409 (403)	630	597,529	1.1	0.0	0.0	0.8	1.6	2.5
Medical/surgical -Major teaching	328 (324)	940	765,267	1.2	0.0	0.0	1.0	1.8	3.0
Medical/surgical -All other ≤15 beds	1,690 (1,562)	1,226	1,312,634	0.9	0.0	0.0	0.0	1.2	2.6
Medical/surgical -All other > 15 beds	803 (801)	1,894	2,110,694	0.9	0.0	0.0	0.7	1.4	2.2
Neurologic	55 (54)	83	80,900	1.0	0.0	0.0	0.5	1.6	2.5
Neurosurgical	174	361	314,752	1.1	0.0	0.0	0.9	1.9	2.8
Pediatric cardiothoracic	41	189	134,529	1.4	0.0	0.8	1.3	2.1	2.5
Pediatric medical	33 (24)	29	24,297	1.2	0.0	0.0	0.6	2.7	3.8
Pediatric medical/surgical	317 (293)	573	401,074	1.4	0.0	0.0	0.8	2.1	2.9
Pediatric surgical	6	3	3,457	0.9					
Prenatal	6 (3)	1	376	2.7					
Respiratory	10	18	15,254	1.2					
Surgical -Major teaching	178	529	445,486	1.2	0.0	0.3	0.9	1.8	2.8
Surgical -All other	210 (203)	357	387,095	0.9	0.0	0.0	0.7	1.5	2.5
Surgical cardiothoracic	459 (457)	803	950,847	0.8	0.0	0.0	0.5	1.2	2.0

Central line-associated BSI rate*					Percentile				
Type of Location	**No. of locations†**	**No. of CLABSI**	**Central line-days**	**Pooled mean**	**10%**	**25%**	**50% (median)**	**75%**	**90%**
Trauma	153	547	341,619	1.6	0.0	0.5	1.3	2.4	3.9
Step-Down Units									
Adult step-down (post-critical care)	585 (570)	527	667,879	0.8	0.0	0.0	0.0	1.2	2.3
Step-down NICU (level II)	42 (20)	4	5,096	0.8	0.0	0.0	0.0	0.0	0.0
Pediatric step-down (post-critical care)	14	26	13,962	1.9					
Inpatient Wards									
Acute stroke	20	15	14,038	1.1	0.0	0.0	0.0	1.4	3.4
Antenatal	18 (6)	1	1,554	0.6					
Behavioral health/psychiatry	104 (31)	5	9,032	0.6	0.0	0.0	0.0	0.0	0.0
Burn	17	21	8,877	2.4					
Gastrointestinal	6	19	10,619	1.8					
Genitourinary	14 (12)	19	17,005	1.1					
Geronotology	10 (9)	3	5,940	0.5					
Gynecology	51 (28)	6	10,916	0.5	0.0	0.0	0.0	0.0	1.1
Jail	14 (12)	12	7,350	1.6					
Labor and delivery	57 (2)	0	802	0.0					
Labor, delivery, recovery, postpartum suite	111 (16)	4	3,182	1.3					
Medical	917 (877)	962	1,080,386	0.9	0.0	0.0	0.0	1.3	2.5
Medical/surgical	2,048 (1,932)	1,592	1,938,992	0.8	0.0	0.0	0.0	1.1	2.2
Neurologic	64 (63)	54	64,719	0.8	0.0	0.0	0.0	1.4	2.6
Neurosurgical	63 (61)	44	54,802	0.8	0.0	0.0	0.0	0.8	2.2
Orthopedic	274 (247)	78	172,241	0.5	0.0	0.0	0.0	0.0	1.7
Orthopedic trauma	21 (20)	26	22,588	1.2	0.0	0.0	0.4	1.6	2.1
Pediatric medical	52 (47)	48	49,399	1.0	0.0	0.0	0.0	1.1	2.3
Pediatric medical/surgical	286 (216)	226	212,654	1.1	0.0	0.0	0.0	1.1	2.3
Pediatric orthopedic	10 (3)	1	2,034	0.5					
Pediatric rehabilitation - non-IRF‡	8	8	4,418	1.8					
Pediatric surgical	14	15	15,668	1.0					

Central line-associated BSI rate*					Percentile				
Type of Location	**No. of locations†**	**No. of CLABSI**	**Central line-days**	**Pooled mean**	**10%**	**25%**	**50% (median)**	**75%**	**90%**
Postpartum	155 (23)	2	3,647	0.5	0.0	0.0	0.0	0.0	0.0
Pulmonary	41	69	66,228	1.0	0.0	0.0	0.7	1.3	2.7
Rehabilitation - non-IRF‡	32 (26)	4	15,786	0.3	0.0	0.0	0.0	0.0	0.0
Surgical	507 (482)	452	555,766	0.8	0.0	0.0	0.3	1.4	2.8
Telemetry	298 (293)	241	277,559	0.9	0.0	0.0	0.0	1.3	2.7
Vascular Surgery	25	21	37,652	0.6	0.0	0.0	0.0	1.3	1.9
Well-Baby Nursery	16 (3)	0	486	0.0					
Chronic Care Units§									
Chronic care	24	18	24,932	0.7	0.0	0.0	0.0	0.9	1.8
Inpatient hospice	5	0	3,089	0.0					
Ventilator dependent unit	7	15	13,193	1.1					
Critical Access Hospitals									
Critical care units‖	153 (74)	10	17,942	0.6	0.0	0.0	0.0	0.0	0.0
Non-critical care units¶	181 (126)	21	37,932	0.6	0.0	0.0	0.0	0.0	0.0
Long-Term Acute Care Hospitals#									
Adult critical care	63	147	90,703	1.6	0.0	0.0	1.1	2.6	4.4
Adult ward	574 (564)	1,967	1,879,822	1.0	0.0	0.0	0.8	1.6	2.4
Inpatient Rehabilitation Facilities**									
Adult rehabilitation units - Freestanding	69 (64)	17	44,818	0.4	0.0	0.0	0.0	0.0	1.0
Adult rehabilitation units - Within healthcare facility	323 (288)	86	133,910	0.6	0.0	0.0	0.0	0.0	2.4

	Central line utilization ratio††						Percentile		
	No. of locations+	Central line-days	Patient-days	Pooled mean	10%	25%	50% (median)	75%	90%
Acute Care Hospitals									
Critical Care									
Burn	73	78,825	165,242	0.48	0.21	0.32	0.46	0.61	0.75
Medical -Major teaching	231	625,053	1,065,875	0.59	0.39	0.50	0.59	0.68	0.76
Medical -All other	459 (454)	627,374	1,403,932	0.45	0.12	0.23	0.41	0.57	0.69
Medical cardiac	409	597,529	1,421,371	0.42	0.18	0.30	0.41	0.56	0.69
Medical/surgical -Major teaching	328 (327)	765,267	1,380,023	0.55	0.27	0.41	0.53	0.65	0.71
Medical/surgical -All other ≤15 beds	1,690 (1,669)	1,312,634	3,774,615	0.35	0.10	0.19	0.33	0.49	0.62
Medical Surgical -All other > 15 beds	803	2,110,694	4,378,657	0.48	0.29	0.40	0.51	0.60	0.69
Neurologic	55 (54)	80,900	160,483	0.50	0.22	0.35	0.49	0.59	0.74
Neurosurgical	174	314,752	721,754	0.44	0.25	0.35	0.43	0.53	0.63
Pediatric cardiothoracic	41	134,529	187,490	0.72	0.52	0.59	0.76	0.87	0.91
Pediatric medical	33 (29)	24,297	56,936	0.43	0.10	0.21	0.29	0.39	0.48
Pediatric medical/surgical	317 (313)	401,074	880,238	0.46	0.15	0.23	0.36	0.51	0.60
Pediatric surgical	6	3,457	9,252	0.37					
Prenatal	6	376	6,974	0.05					
Respiratory	10	15,254	32,728	0.47					
Surgical -Major teaching	178	445,486	753,588	0.59	0.37	0.47	0.58	0.70	0.77
Surgical -All other	210 (208)	387,095	717,985	0.54	0.33	0.44	0.55	0.66	0.75
Surgical cardiothoracic	459 (458)	950,847	1,428,269	0.67	0.37	0.50	0.68	0.81	0.90
Trauma	153	341,619	631,876	0.54	0.35	0.45	0.54	0.63	0.70
Step-Down Units									
Adult step-down (post-critical care)	585 (583)	667,879	3,188,720	0.21	0.08	0.12	0.19	0.29	0.40
Step-down NICU (level II)	42 (40)	5,096	79,525	0.06	0.01	0.03	0.06	0.09	0.15
Pediatric step-down (post-critical care)	14	13,962	51,428	0.27					

	Central line utilization ratio††				Percentile				
	No. of locations+	Central line-days	Patient-days	Pooled mean	10%	25%	50% (median)	75%	90%
Inpatient Wards									
Acute stroke	20	14,038	111,017	0.13	0.06	0.09	0.11	0.14	0.16
Antenatal	18	1,554	27,399	0.06					
Behavioral health/psychiatry	104	9,032	257,975	0.04	0.00	0.01	0.01	0.03	0.05
Burn	17	8,877	41,957	0.21					
Gastrointestinal	6	10,619	38,469	0.28					
Genitourinary	14	17,005	72,775	0.23					
Geronotology	10	5,940	51,878	0.11					
Gynecology	51 (50)	10,916	124,952	0.09	0.01	0.02	0.04	0.08	0.14
Jail	14	7,350	46,237	0.16					
Labor and delivery	57 (56)	802	53,708	0.01	0.00	0.01	0.01	0.03	0.06
Labor, delivery, recovery, postpartum suite	111 (110)	3,182	147,766	0.02	0.00	0.01	0.01	0.03	0.06
Medical	917 (911)	1,080,386	6,325,631	0.17	0.06	0.09	0.15	0.21	0.30
Medical/surgical	2,048 (2,038)	1,938,992	13,323,221	0.15	0.05	0.08	0.12	0.17	0.26
Neurologic	64	64,719	460,682	0.14	0.06	0.09	0.14	0.18	0.21
Neurosurgical	63	54,802	400,128	0.14	0.06	0.08	0.14	0.18	0.22
Orthopedic	274	172,241	1,629,594	0.11	0.02	0.05	0.08	0.13	0.17
Orthopedic Trauma	21	22,588	149,270	0.15	0.03	0.10	0.15	0.17	0.21
Pediatric medical	52	49,399	234,474	0.21	0.04	0.08	0.16	0.26	0.39
Pediatric medical/surgical	286 (284)	212,654	1,142,975	0.19	0.02	0.05	0.10	0.22	0.34
Pediatric orthopedic	10	2,034	12,684	0.16					
Pediatric rehabilitation - non-IRF‡	8	4,418	24,829	0.18					
Pediatric surgical	14	15,668	70,738	0.22					
Postpartum	155	3,647	318,836	0.01	0.00	0.00	0.01	0.02	0.04
Pulmonary	41	66,228	290,991	0.23	0.10	0.14	0.22	0.31	0.38
Rehabilitation - non-IRF‡	32	15,786	122,348	0.13	0.03	0.06	0.11	0.18	0.31
Surgical	507 (506)	555,766	3,336,490	0.17	0.05	0.09	0.14	0.21	0.27
Telemetry	298	277,559	2,111,059	0.13	0.05	0.09	0.13	0.17	0.23
Vascular surgery	25	37,652	178,330	0.21	0.09	0.11	0.19	0.27	0.40

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Central line utilization ratio††					Percentile				
	No. of locations+	Central line-days	Patient-days	Pooled mean	10%	25%	50% (median)	75%	90%
Well-Baby Nursery	16 (14)	486	11,649	0.04					
Chronic Care Units§									
Chronic care unit	24 (23)	24,932	104,024	0.24	0.04	0.09	0.17	0.33	0.61
Inpatient hospice	5	3,089	10,670	0.29					
Ventilator dependent unit	7	13,193	41,749	0.32					
Critical Access Hospitals									
Critical care units//	153 (136)	17,942	113,098	0.16	0.06	0.10	0.17	0.23	0.34
Non-critical care units¶	181 (177)	37,932	415,592	0.09	0.03	0.04	0.07	0.10	0.16
Long-Term Acute Care Hospitals#									
Adult critical care	63	90,703	147,465	0.62	0.53	0.66	0.78	0.88	0.93
Adult ward	574 (573)	1,879,822	3,069,199	0.61	0.30	0.52	0.66	0.76	0.86
Inpatient Rehabilitation Facilities**									
Adult rehabilitation units - Freestanding	69	44,818	578,554	0.08	0.02	0.04	0.06	0.10	0.15
Adult rehabilitation units - Within healthcare facility	323 (322)	133,910	1,394,340	0.10	0.04	0.06	0.08	0.12	0.16

BSI, bloodstream infection; *CLABSI*, central line-associated BSI; *NICU*, neonatal intensive care unit.

*$\frac{\text{Number ofCLABSI}}{\text{Number of central line-days}} \times 1000$

††$\frac{\text{Number of central line-days}}{\text{Number of patient-days}}$

†The number in parentheses is the number of locations meeting minimum requirements for percentile distributions (i.e., ≥50 device days for rate distributions, ≥50 patient days for device utilization ratios) if less than total number of locations. If this number is <20, percentile distributions are not calculated.

‡Includes only in-hospital rehabilitation wards that are not defined as inpatient rehabilitation facilities (IRF) per the CMS Inpatient Rehabilitation Facility Quality Reporting Program.

§Includes chronic care locations within the general acute care hospital setting.

//Combines all critical care unit types within critical access hospitals.

¶ Combines all units not identified as critical care (e.g., inpatient wards, step-down units) within critical access hospitals.

Includes free-standing long-term acute care hospitals and long-term acute care locations within the general acute care hospital setting.

** Includes free-standing inpatient rehabilitation facilities and inpatient rehabilitation facilities within the acute care hospital setting, as defined by the CMS Inpatient Rehabilitation Facility Quality Reporting Program.

Table 4

Pooled means and key percentiles of the distribution of laboratory-confirmed permanent and temporary central line-associated BSI rates and central line utilization ratios, by type of speciality care area/oncology location, DA module, 2012

Permanent Central line-associated BSI rate*					Percentile				
Type of Location	**No. of locations†**	**No. of PCLABSI**	**Permanent Central line-days**	**Pooled mean**	**10%**	**25%**	**50% (median)**	**75%**	**90%**
Specialty Care Area/Oncology									
General hematology/oncology	178 (174)	402	300,231	1.3	0.0	0.0	0.8	1.7	3.0
Hematopoietic stem cell transplant	54 (53)	256	118,924	2.2	0.0	0.4	1.3	2.9	5.0
Pediatric general hematology/oncology	46	257	151,942	1.7	0.0	0.6	1.1	2.4	3.5
Pediatric hematopoietic stem cell transplant	16	93	33,176	2.8					
Solid organ transplant	20 (17)	20	11,675	1.7					
Solid tumor	6	15	18,032	0.8					

Temporary Central line-associated BSI rate‡					Percentile				
Type of Location	**No. of locations†**	**No. of TCLABSI**	**Temporary Central line-days**	**Pooled mean**	**10%**	**25%**	**50% (median)**	**75%**	**90%**
Specialty Care Area/Oncology									
General hematology/oncology	185 (180)	491	257,889	1.9	0.0	0.0	1.2	2.5	4.5
Hematopoietic stem cell transplant	56	294	109,591	2.7	0.0	0.5	2.4	3.7	4.8
Pediatric general hematology/oncology	44	94	40,141	2.3	0.0	0.0	2.0	2.8	4.5
Pediatric hematopoietic stem cell transplant	15 (13)	22	9,549	2.3					
Solid organ transplant	23 (22)	64	44,202	1.4	0.0	0.4	1.2	1.9	3.4
Solid tumor	6	17	6,730	2.5					

Permanent Central line utilization ratio§					Percentile				
Type of location	**No. of locations†**	**Permanent Central line-days**	**Patient-days**	**Pooled mean**	**10%**	**25%**	**50% (median)**	**75%**	**90%**
Specialty Care Area/Oncology									
General hematology/oncology	178 (177)	300,231	999,114	0.30	0.10	0.18	0.25	0.39	0.52

Permanent Central line utilization ratio§					Percentile				
Type of location	**No. of locations†**	**Permanent Central line-days**	**Patient-days**	**Pooled mean**	**10%**	**25%**	**50% (median)**	**75%**	**90%**
Hematopoietic stem cell transplant	54	118,924	243,340	0.49	0.14	0.29	0.44	0.63	0.83
Pediatric general hematology/oncology	46	151,942	243,377	0.62	0.36	0.47	0.60	0.72	0.85
Pediatric hematopoietic stem cell transplant	16	33,176	46,688	0.71					
Solid organ transplant	20	11,675	106,289	0.11	0.02	0.04	0.07	0.10	0.26
Solid tumor	6	18,032	77,293	0.23					

Temporary Central line utilization ratio‖					Percentile				
Type of location	**No. of locations†**	**Temporary Central line-days**	**Patient-days**	**Pooled mean**	**10%**	**25%**	**50% (median)**	**75%**	**90%**
Specialty Care Area/Oncology									
General hematology/oncology	185 (184)	257,889	1,044,242	0.25	0.09	0.14	0.20	0.33	0.44
Hematopoietic stem cell transplant	56	109,591	252,048	0.43	0.11	0.24	0.44	0.62	0.79
Pediatric general hematology/oncology	44	40,141	224,294	0.18	0.05	0.09	0.13	0.22	0.36
Pediatric hematopoietic stem cell transplant	15	9,549	45,420	0.21					
Solid organ transplant	23 (22)	44,202	127,153	0.35	0.15	0.19	0.34	0.49	0.73
Solid tumor	6	6,730	78,482	0.09					

BSI, bloodstream infection; *PCLABSI*, permanent central line-associated BSI; TCLABSI, temporary central line-associated BSI

*$\frac{\text{Number of PCLABSI}}{\text{Number of permanent central line-days}} \times 1000$

§$\frac{\text{Number of permanent central line-days}}{\text{Number of patient-days}}$

‡$\frac{\text{Number of TCLABSI}}{\text{Number of temporary central line-days}} \times 1000$

‖$\frac{\text{Number of temporary central line-days}}{\text{Number of patient-days}}$

†The number in parentheses is the number of locations meeting minimum requirements for percentile distributions (i.e., ≥50 device days for rate distributions, ≥50 patient days for device utilization ratios) if less than total number of locations. If this number is <20, percentile distributions are not calculated.

Table 5

Pooled means and key percentiles of the distribution of urinary catheter-associated UTI rates and urinary catheter utilization ratios, by type of location, DA module, 2012

Urinary catheter-associated UTI rate*					Percentile				
Type of location	**No. of locations†**	**No. of CAUTI**	**Urinary catheter-days**	**Pooled mean**	**10%**	**25%**	**50% (median)**	**75%**	**90%**
Acute Care Hospitals									
Critical care units									
Burn	73	384	82,039	4.7	0.0	1.7	4.3	8.1	11.5
Medical -Major teaching	230	2,181	741,268	2.9	0.4	1.3	2.3	3.9	5.5
Medical -All other	460 (454)	1,438	852,627	1.7	0.0	0.0	1.0	2.3	3.7
Medical cardiac	405	1,517	703,734	2.2	0.0	0.6	1.8	3.4	4.9
Medical/Surgical -Major teaching	328 (325)	2,280	935,001	2.4	0.0	0.9	2.0	3.5	5.2
Medical/Surgical -All other, ≤15 beds	1,688 (1,651)	2,521	2,032,215	1.2	0.0	0.0	0.6	1.8	3.2
Medical/Surgical -All other, >15 beds	797	4,387	2,766,887	1.6	0.0	0.6	1.3	2.2	3.3
Neurologic	55 (54)	441	118,556	3.7	0.3	1.7	2.8	5.0	7.9
Neurosurgical	173	2,464	489,391	5.0	1.1	2.7	4.3	6.2	8.3
Pediatric cardiothoracic	32 (31)	61	28,823	2.1	0.0	0.8	2.1	3.4	5.0
Pediatric medical	30 (21)	35	10,389	3.4	0.0	0.0	1.0	3.1	6.7
Pediatric medical/surgical	297 (268)	452	166,710	2.7	0.0	0.0	1.6	3.8	6.0
Pediatric surgical	5 (4)	1	1,346	0.7					
Respiratory	9	30	19,324	1.6					
Surgical -Major teaching	176	1,800	558,102	3.2	0.6	1.5	2.7	4.5	6.6
Surgical -All other	209 (205)	918	491,868	1.9	0.0	0.6	1.3	2.5	3.9
Surgical cardiothoracic	456 (455)	1,657	939,044	1.8	0.0	0.4	1.4	2.5	3.8
Trauma	153 (152)	1,991	490,351	4.1	0.9	1.6	3.3	5.6	8.2

Urinary catheter-associated UTI rate*					Percentile				
Type of location	No. of locations†	No. of CAUTI	Urinary catheter-days	Pooled mean	10%	25%	50% (median)	75%	90%
Specialty Care Areas/Oncology									
General hematology/oncology	148 (143)	257	119,248	2.2	0.0	0.0	1.6	3.6	5.7
Hematopoietic stem cell transplant	42 (38)	41	21,134	1.9	0.0	0.0	0.8	3.4	7.3
Pediatric general hematology/oncology	24 (18)	9	3,252	2.8					
Pediatric hematopoietic stem cell transplant	5 (2)	1	277	3.6					
Solid organ transplant	16	37	22,667	1.6					
Solid tumor	6	58	25,785	2.2					
Step-down Units									
Adult step-down (post-critical care)	470 (466)	1,139	615,962	1.8	0.0	0.0	1.2	2.7	4.6
Pediatric step-down (post-critical care)	12 (7)	1	970	1.0					
Inpatient Wards									
Acute stroke	15	26	17,456	1.5					
Antenatal	15 (12)	2	2,234	0.9					
Behavioral health/psychiatry	118 (50)	32	11,605	2.8	0.0	0.0	0.0	3.2	9.1
Burn	16 (15)	32	6,061	5.3					
Genitourinary	12 (11)	11	11,409	1.0					
Gerontology	11	8	7,489	1.1					
Gynecology	59 (51)	26	29,614	0.9	0.0	0.0	0.0	1.1	3.1
Jail	11 (7)	6	3,372	1.8					
Labor and delivery	95 (69)	15	28,435	0.5	0.0	0.0	0.0	0.0	1.6
Labor, delivery, recovery, postpartum suite	167 (144)	30	63,794	0.5	0.0	0.0	0.0	0.0	1.2
Medical	813 (788)	1,334	882,392	1.5	0.0	0.0	1.0	2.4	4.5
Medical/Surgical	1,825 (1,765)	2,752	2,038,073	1.4	0.0	0.0	0.8	2.1	3.6
Neurologic	56 (55)	159	78,211	2.0	0.0	0.6	1.6	3.0	5.3
Neurosurgical	48	175	61,879	2.8	0.0	0.9	2.3	3.8	5.3
Orthopedic	249 (239)	425	356,156	1.2	0.0	0.0	0.8	2.1	3.2
Orthopedic trauma	17	68	31,586	2.2					
Pediatric medical	33 (16)	6	4,188	1.4					
Pediatric medical/surgical	209 (111)	55	31,738	1.7	0.0	0.0	0.0	1.4	6.6

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Urinary catheter-associated UTI rate*					Percentile				
Type of location	**No. of locations†**	**No. of CAUTI**	**Urinary catheter-days**	**Pooled mean**	**10%**	**25%**	**50% (median)**	**75%**	**90%**
Pediatric orthopedic	5 (4)	1	2,086	0.5					
Pediatric rehabilitation - non-IRF‡	5 (1)	1	245	4.1					
Pediatric surgical	12 (8)	4	5,846	0.7					
Postpartum	215 (195)	61	115,138	0.5	0.0	0.0	0.0	0.0	2.4
Pulmonary	29 (28)	88	44,393	2.0	0.0	0.7	1.4	2.2	4.7
Rehabilitation - non-IRF‡	37 (31)	29	11,285	2.6	0.0	0.0	0.0	4.9	6.2
Surgical	458 (450)	1,099	647,041	1.7	0.0	0.0	1.2	2.6	4.8
Telemetry	207 (203)	400	286,809	1.4	0.0	0.0	1.1	2.1	3.6
Vascular surgery	20	25	23,153	1.1	0.0	0.0	0.6	1.2	2.7
Well-baby nursery	6 (0)	0	24	0.0					
Chronic Care Units§									
Chronic care	30 (29)	31	14,553	2.1	0.0	0.0	0.0	3.6	4.3
Chronic care rehabilitation unit	12 (10)	6	2,278	2.6					
Inpatient hospice	5	2	5,509	0.4					
Ventilator dependent unit	5	40	8,311	4.8					
Critical Access Hospitals									
Critical care units‖	140 (119)	25	35,833	0.7	0.0	0.0	0.0	0.0	3.8
Non-critical care units¶	276 (239)	173	98,900	1.7	0.0	0.0	0.0	3.0	6.2
Long-Term Acute Care Hospitals#									
Adult critical care	61	148	57,468	2.6	0.0	0.0	1.5	4.3	6.4
Adult ward	588 (580)	2,537	1,282,295	2.0	0.0	0.0	1.6	3.0	4.9
Inpatient Rehabilitation Facilities**									
Adult rehabilitation units - Freestanding	286 (260)	348	119,422	2.9	0.0	0.0	1.1	4.8	9.3
Adult rehabilitation units - Within hospital	888 (662)	569	180,177	3.2	0.0	0.0	0.0	4.5	9.9

Urinary catheter-associated UTI rate*					Percentile				
Type of location	No. of locations†	No. of CAUTI	Urinary catheter-days	Pooled mean	10%	25%	50% (median)	75%	90%
Pediatric rehabilitation units - Within hospital	10 (5)	2	1,087	1.8					

Urinary catheter utilization ratio††					Percentile				
Type of location	No. of locations†	Urinary catheter-days	Patient days	Pooled mean	10%	25%	50% (median)	75%	90%
Acute Care Hospitals									
Critical care units									
Burn	73	82,039	163,298	0.50	0.24	0.35	0.48	0.64	0.84
Medical -Major teaching	230	741,268	1,061,826	0.70	0.53	0.64	0.73	0.79	0.85
Medical -All other	460 (456)	852,627	1,401,026	0.61	0.32	0.50	0.64	0.74	0.82
Medical cardiac	405	703,734	1,393,767	0.50	0.29	0.42	0.54	0.66	0.76
Medical/Surgical -Major teaching	328 (327)	935,001	1,371,681	0.68	0.46	0.58	0.69	0.77	0.83
Medical/Surgical -All other, ≤15 beds	1,688 (1,670)	2,032,215	3,800,961	0.53	0.31	0.45	0.60	0.72	0.79
Medical/Surgical -All other, >15 beds	797	2,766,887	4,338,434	0.64	0.46	0.59	0.70	0.77	0.82
Neurologic	55	118,556	157,449	0.75	0.48	0.64	0.76	0.85	0.88
Neurosurgical	173	489,391	713,836	0.69	0.46	0.61	0.72	0.80	0.86
Pediatric cardiothoracic	32	28,823	129,344	0.22	0.07	0.16	0.20	0.30	0.36
Pediatric medical	30 (27)	10,389	49,809	0.21	0.05	0.09	0.13	0.21	0.34
Pediatric medical/surgical	297 (292)	166,710	775,828	0.21	0.08	0.13	0.19	0.26	0.32
Pediatric surgical	5		3,792	0.35					
Respiratory	9	19,324	32,296	0.60					
Surgical -Major teaching	176	558,102	745,658	0.75	0.55	0.67	0.77	0.84	0.89
Surgical -All other	209 (205)	491,868	708,482	0.69	0.52	0.64	0.75	0.82	0.88
Surgical cardiothoracic	456 (455)	939,044	1,417,609	0.66	0.41	0.55	0.70	0.80	0.89

Type of location	No. of locations†	Urinary catheter-days	Patient days	Urinary catheter utilization ratio†† Pooled mean	Percentile 10%	25%	50% (median)	75%	90%
Trauma	153	490,351	631,132	0.78	0.60	0.71	0.80	0.86	0.93
Specialty Care Areas/Oncology									
General hematology/oncology	148 (147)	119,248	812,884	0.15	0.07	0.10	0.14	0.20	0.28
Hematopoietic stem cell transplant	42	21,134	192,836	0.11	0.03	0.05	0.08	0.16	0.23
Pediatric general hematology/oncology	24	3,252	113,041	0.03	0.01	0.01	0.02	0.03	0.08
Pediatric hematopoietic stem cell transplant	5	277	8,384	0.03					
Solid organ transplant	16	22,667	94,290	0.24					
Solid tumor	6	25,785	78,482	0.33					
Step-down Units									
Adult step-down (post-critical care)	470 (469)	615,962	2,480,340	0.25	0.11	0.17	0.25	0.37	0.50
Pediatric step-down (post-critical care)	12	970	37,889	0.03					
Inpatient Wards									
Acute stroke	15	17,456	77,769	0.22					
Antenatal	15	2,234	33,101	0.07					
Behavioral health/psychiatry	118	11,605	318,371	0.04	0.00	0.01	0.02	0.04	0.06
Burn	16	6,061	35,863	0.17					
Genitourinary	12	11,409	65,152	0.18					
Gerontology	11	7,489	60,604	0.12					
Gynecology	59 (58)	29,614	170,866	0.17	0.05	0.11	0.15	0.23	0.38
Jail	11	3,372	37,316	0.09					
Labor and delivery	95 (94)	28,435	168,958	0.17	0.01	0.06	0.11	0.21	0.35
Labor, delivery, recovery, postpartum suite	167 (166)	63,794	411,335	0.16	0.05	0.09	0.13	0.18	0.29
Medical	813 (809)	882,392	5,552,794	0.16	0.07	0.11	0.15	0.20	0.26
Medical/Surgical	1,825 (1,814)	2,038,073	11,501,523	0.18	0.09	0.12	0.17	0.22	0.29
Neurologic	56	78,211	376,137	0.21	0.08	0.14	0.19	0.24	0.34
Neurosurgical	48	61,879	315,157	0.20	0.10	0.15	0.19	0.24	0.35
Orthopedic	249 (248)	356,156	1,389,082	0.26	0.11	0.17	0.25	0.33	0.43
Orthopedic trauma	17	31,586	132,749	0.24					
Pediatric medical	33 (32)	4,188	102,201	0.04	0.00	0.01	0.02	0.04	0.10
Pediatric medical/surgical	209 (205)	31,738	654,343	0.05	0.01	0.01	0.03	0.07	0.12

Type of location	No. of locations†	Urinary catheter-days	Patient days	Urinary catheter utilization ratio†† Pooled mean	Percentile 10%	25%	50% (median)	75%	90%
Pediatric orthopedic	5	2,086	11,202	0.19					
Pediatric rehabilitation - non-IRF‡	5	245	6,965	0.04					
Pediatric surgical	12	5,846	48,474	0.12					
Postpartum	215	115,138	880,621	0.13	0.03	0.08	0.12	0.17	0.24
Pulmonary	29	44,393	206,424	0.22	0.09	0.14	0.18	0.30	0.51
Rehabilitation - non-IRF‡	37 (36)	11,285	113,203	0.10	0.04	0.06	0.09	0.13	0.24
Surgical	458	647,041	2,887,968	0.22	0.11	0.16	0.22	0.29	0.39
Telemetry	207	286,809	1,484,465	0.19	0.11	0.14	0.19	0.25	0.30
Vascular surgery	20	23,153	139,105	0.17	0.06	0.11	0.15	0.20	0.27
Well-baby nursery	6 (4)	24	1,024	0.02					
Chronic Care Units§									
Chronic care	30 (27)	14,553	95,809	0.15	0.04	0.07	0.13	0.17	0.28
Chronic care rehabilitation unit	12	2,278	26,153	0.09					
Inpatient hospice	5	5,509	10,670	0.52					
Ventilator dependent unit	5	8,311	28,901	0.29					
Critical Access Hospitals									
Critical care units‖	140 (129)	35,833	118,365	0.30	0.19	0.31	0.43	0.54	0.66
Non-critical care units¶	276 (239)	98,900	609,462	0.16	0.08	0.12	0.16	0.22	0.30
Long-Term Acute Care Hospitals#									
Adult critical care	61	57,468	128,089	0.45	0.35	0.46	0.65	0.80	0.87
Adult ward	588 (587)	1,282,295	2,757,396	0.47	0.20	0.35	0.46	0.57	0.66
Inpatient Rehabilitation Facilities**									
Adult rehabilitation units - Freestanding	286	119,422	1,382,477	0.09	0.03	0.05	0.08	0.10	0.15
Adult rehabilitation units - Within hospital	888 (887)	180,177	2,171,747	0.08	0.02	0.05	0.07	0.11	0.17
Pediatric rehabilitation units - Within hospital	10	1,087	13,564	0.08					

UTI, urinary tract infection; *CAUTI*, catheter-associated UTI.

*$\frac{\text{Number of CAUTI}}{\text{Number of urinary catheter-days}} \times 1000$

†† $\frac{\text{Number of urinary catheter-days}}{\text{Number of patient-days}}$

† The number in parentheses is the number of locations meeting minimum requirements for percentile distributions (i.e., ≥50 device days for rate distributions, ≥50 patient days for device utilization ratios) if less than total number of locations. If this number is <20, percentile distributions are not calculated.

‡ Includes only in-hospital rehabilitation wards that are not defined as inpatient rehabilitation facilities (IRF) per the CMS Inpatient Rehabilitation Facility Quality Reporting Program.

§ Includes chronic care locations within the general acute care hospital setting.

// Combines all critical care unit types within critical access hospitals.

¶ Combines all units not identified as critical care (e.g., inpatient wards, step-down units) within critical access hospitals.

Includes free-standing long-term acute care hospitals and long-term acute care locations within the general acute care hospital setting.

** Includes free-standing inpatient rehabilitation facilities and inpatient rehabilitation facilities within the acute care hospital setting, as defined by the CMS Inpatient Rehabilitation Facility Quality Reporting Program.

Table 6

Pooled means and key percentiles of the distribution of ventilator-associated PNEU rates and ventilator utilization ratios, by type of location, DA module, 2012

Ventilator-associated PNEU rate*					Percentile				
Type of location	**No. of locations†**	**No. of VAP**	**Ventilator -days**	**Pooled mean**	**10%**	**25%**	**50% (median)**	**75%**	**90%**
Acute Care Hospitals									
Critical Care Units									
Burn	36 (34)	86	19,503	4.4	0.0	0.0	1.1	6.7	10.9
Medical -Major teaching	112 (111)	205	212,392	1.0	0.0	0.0	0.5	1.6	2.9
Medical -All other	223 (197)	191	206,731	0.9	0.0	0.0	0.0	1.3	3.4
Medical cardiac	178 (170)	135	139,864	1.0	0.0	0.0	0.0	1.5	3.6
Medical/surgical -Major teaching	152 (145)	372	234,972	1.6	0.0	0.0	0.9	2.2	3.9
Medical/surgical -All other ≤15 beds	841 (660)	419	383,926	1.1	0.0	0.0	0.0	1.2	3.6
Medical/surgical -All other >15 beds	405 (400)	666	711,280	0.9	0.0	0.0	0.4	1.3	2.8
Neurologic	23	62	20,859	3.0	0.0	0.0	0.2	2.5	7.0
Neurosurgical	76 (74)	210	98,026	2.1	0.0	0.0	1.5	2.9	3.8
Pediatric cardiothoracic	20	9	36,187	0.2	0.0	0.0	0.0	0.2	0.6
Pediatric medical	16 (9)	2	6,634	0.3					
Pediatric medical/surgical	142 (132)	113	147,441	0.8	0.0	0.0	0.0	0.9	2.4
Pediatric surgical	5 (4)	1	2,328	0.4					
Respiratory	7	4	6,037	0.7					
Surgical -Major teaching	81 (80)	280	127,251	2.2	0.0	0.6	1.5	3.1	5.6
Surgical -All other	93 (88)	192	96,388	2.0	0.0	0.0	0.9	2.8	5.9
Surgical cardiothoracic	207 (203)	319	190,785	1.7	0.0	0.0	0.6	2.5	5.1
Trauma	75 (74)	508	141,314	3.6	0.0	0.8	2.6	6.0	9.4
Specialty Care Areas/Oncology									

Ventilator-associated PNEU rate*					Percentile				
Type of location	No. of locations†	No. of VAP	Ventilator -days	Pooled mean	10%	25%	50% (median)	75%	90%
Hematopoietic stem cell transplant	5	0	1,951	0.0					
Step-Down Units									
Adult step-down (post-critical care)	102 (82)	31	42,462	0.7	0.0	0.0	0.0	0.0	1.8
Pediatric step-down (post-critical care)	5 (4)	1	5,813	0.2					
Step-down NICU (level II)	7 (1)	0	119	0.0					
Inpatient Wards									
Medical	39 (22)	3	6,472	0.5	0.0	0.0	0.0	0.0	1.4
Medical/surgical	64 (35)	22	25,731	0.9	0.0	0.0	0.0	0.0	1.3
Pediatric medical	6 (5)	0	2,026	0.0					
Pediatric medical/surgical	11 (8)	0	3,146	0.0					
Pulmonary	9 (8)	7	7,241	1.0					
Surgical	8 (1)	0	107	0.0					
Telemetry	10 (5)	1	1,770	0.6					
Critical Access Hospitals									
Critical care units‖	67 (14)	3	2964	1.0					
Non-critical care units¶	9 (1)	4	2660	1.5					
Long-Term Acute Care Hospitals‡									
Adult critical care	18 (17)	8	12,544	0.6					
Adult ward	195 (190)	103	316,632	0.3	0.0	0.0	0.0	0.3	1.4

Ventilator utilization ratio¶					Percentile				
Type of location	No. of locations†	Ventilator -days	Patient-days	Pooled mean	10%	25%	50% (median)	75%	90%
Acute Care Hospitals									
Critical Care Units									
Burn	36	19,503	71,198	0.27	0.08	0.15	0.23	0.34	0.43

	Ventilator utilization ratio[¶]								
					Percentile				
Type of location	**No. of locations[†]**	**Ventilator -days**	**Patient-days**	**Pooled mean**	**10%**	**25%**	**50% (median)**	**75%**	**90%**
Medical -Major teaching	112	212,392	477,003	0.45	0.28	0.37	0.45	0.54	0.63
Medical -All other	223 (220)	206,731	606,883	0.34	0.08	0.16	0.28	0.42	0.55
Medical cardiac	178 (177)	139,864	547,699	0.26	0.09	0.16	0.25	0.33	0.40
Medical/surgical -Major teaching	152 (150)	234,972	618,025	0.38	0.16	0.25	0.37	0.46	0.54
Medical/surgical -All other ≤15 beds	841 (815)	383,926	1,616,191	0.24	0.05	0.10	0.19	0.32	0.43
Medical/surgical -All other >15 beds	405	711,280	2,114,095	0.34	0.19	0.25	0.33	0.41	0.49
Neurologic	23	20,859	64,005	0.33	0.10	0.20	0.33	0.39	0.42
Neurosurgical	76	98,026	323,269	0.30	0.16	0.24	0.30	0.39	0.45
Pediatric cardiothoracic	20	36,187	86,054	0.42	0.25	0.34	0.41	0.50	0.54
Pediatric medical	16	6,634	21,470	0.31					
Pediatric medical/surgical	142 (141)	147,441	400,413	0.37	0.12	0.19	0.30	0.42	0.48
Pediatric surgical	5 (4)	2,328	8,039	0.29					
Respiratory	7	6,037	22,926	0.26					
Surgical -Major teaching	81	127,251	320,792	0.40	0.23	0.29	0.40	0.48	0.53
Surgical -All other	93 (92)	96,388	281,455	0.34	0.15	0.22	0.32	0.41	0.47
Surgical cardiothoracic	207 (206)	190,785	606,801	0.31	0.15	0.20	0.29	0.39	0.49
Trauma	75	141,314	301,607	0.47	0.34	0.41	0.47	0.53	0.63
Specialty Care Areas/Oncology									
Hematopoietic stem cell transplant	5	1,951	22,808	0.09					
Step-Down Units									
Adult step-down (post-critical care)	102 (101)	42,462	437,346	0.10	0.01	0.03	0.06	0.13	0.24
Pediatric step-down (post-critical care)	5	5,813	19,832	0.29					
Step-down NICU (level II)	7 (6)	119	4,073	0.03					
Inpatient Wards									
Medical	39	6,472	209,363	0.03	0.00	0.00	0.02	0.04	0.07
Medical/surgical	64	25,731	378,747	0.07	0.00	0.01	0.02	0.05	0.13

Type of location	No. of locations†	Ventilator-days	Patient-days	Pooled mean	Percentile				
					10%	25%	50% (median)	75%	90%
Ventilator utilization ratio¶									
Pediatric medical	6	2,026	25,314	0.08					
Pediatric medical/surgical	11	3,146	62,702	0.05					
Pulmonary	9	7,241	51,428	0.14					
Surgical	8	107	15,644	0.01					
Telemetry	10	1,770	42,097	0.04					
Critical Access Hospitals									
Critical care units‡	67 (54)	2964	30983	0.10	0.01	0.04	0.07	0.12	0.16
Non-critical care units§	9 (9)	2660	12632	0.21					
Long-Term Acute Care Hospitals‖									
Adult critical care	18 (17)	12,544	41,665	0.30					
Adult ward	195	316,632	1,474,536	0.21	0.07	0.12	0.19	0.29	0.39

VAP, ventilator-associated pneumonia.

*$\frac{\text{Number of VAP}}{\text{Number of ventilator-days}} \times 1000$

¶$\frac{\text{Number of ventilator-days}}{\text{Number of patient-days}}$

†The number in parentheses is the number of locations meeting minimum requirements for percentile distributions (i.e., ≥50 device days for rate distributions, ≥50 patient days for device utilization ratios) if less than total number of locations. If this number is <20, percentile distributions are not calculated.

‡Combines all critical care unit types within critical access hospitals.

§Combines all units not identified as critical care (e.g., inpatient wards, step-down units) within critical access hospitals.

‖Includes free-standing long-term acute care hospitals and long-term acute care locations within the general acute care hospital setting.

Table 7

Pooled means and key percentiles of the distribution of central line-associated BSI rates and central line utilization ratios for level III NICUs, DA module, 2012

Central line-associated BSI rate *					Percentile				
Birth-weight category	No. of locations †	No. of CLABSI	Central line-days	Pooled mean	10%	25%	50% (median)	75%	90%
≤ 750 grams	380 (334)	420	1,85,851	2.3	0	0	1.5	3.7	7.5
751–1000 grams	401 (339)	256	1,60,230	1.6	0	0	0	2.6	4.6
1001–1500 grams	418 (370)	195	1,72,732	1.1	0	0	0	1.6	3.9
1501–2500 grams	415 (338)	104	1,61,361	0.6	0	0	0	0	2.3
> 2500 grams	422 (322)	136	1,76,853	0.8	0	0	0	0.3	2.0

Central line utilization ratio‡					Percentile				
Birth-weight category	No. of locations †	Central line-days	Patient-days	Pooled Mean	10%	25%	50% (median)	75%	90%
≤ 750 grams	380 (346)	1,85,851	4,55,113	0.41	0.27	0.33	0.42	0.55	0.67
751–1000 grams	401 (369)	1,60,230	4,57,406	0.35	0.21	0.27	0.34	0.46	0.60
1001–1500 grams	418 (407)	1,72,732	6,53,953	0.26	0.13	0.18	0.24	0.35	0.49
1501–2500 grams	415 (410)	1,61,361	9,08,957	0.18	0.05	0.08	0.13	0.22	0.37
> 2500 grams	422 (412)	1,76,853	7,38,196	0.24	0.06	0.09	0.15	0.26	0.42

BSI, bloodstream infection; *CLABSI*, central line-associated BSI; *NICU*, neonatal intensive care unit.

*$\frac{\text{Number ofCLABSI}}{\text{Number of central line-days}} \times 1000$

‡$\frac{\text{Number of central line-days}}{\text{Number of patient-days}}$

†The number in parentheses is the number of locations meeting minimum requirements for percentile distributions (i.e., ≥50 device days for rate distributions, ≥50 patient days for device utilization ratios) if less than total number of locations. If this number is <20, percentile distributions are not calculated.

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Table 8

Pooled means and key percentiles of the distribution of central line-associated BSI rates and central line utilization ratios for level II/III NICUs, DA module, 2012

Central line-associated BSI rate *					Percentile				
Birth-weight category	No. of locations †	No. of CLABSI	Central line-days	Pooled mean	10%	25%	50% (median)	75%	90%
≤ 750 grams	377 (283)	300	1,18,042	2.5	0	0	0	4.9	10.1
751–1000 grams	443 (312)	197	1,01,014	2.0	0	0	0	3.3	7.8
1001–1500 grams	524 (373)	115	1,23,617	0.9	0	0	0	0	3.4
1501–2500 grams	555 (351)	67	1,09,035	0.6	0	0	0	0	1.9
> 2500 grams	555 (313)	68	1,12,147	0.6	0	0	0	0	1.4

Central line utilization ratio ‡					Percentile				
Birth-weight category	No. of locations †	Central line-days	Patient-days	Pooled mean	10%	25%	50% (median)	75%	90%
≤ 750 grams	377 (311)	1,18,042	3,10,004	0.38	0.23	0.33	0.45	0.57	0.75
751–1000 grams	443 (356)	1,01,014	3,04,330	0.33	0.19	0.27	0.36	0.47	0.61
1001–1500 grams	524 (466)	1,23,617	4,84,544	0.26	0.11	0.17	0.25	0.35	0.49
1501–2500 grams	555 (532)	1,09,035	7,56,073	0.14	0.04	0.06	0.10	0.17	0.28
> 2500 grams	555 (528)	1,12,147	6,14,939	0.18	0.05	0.07	0.11	0.19	0.29

BSI, bloodstream infection; *CLABSI*, central line-associated BSI; *NICU*, neonatal intensive care unit.

* $\frac{\text{Number of CLABSI}}{\text{Number of central line-days}} \times 1000$

‡ $\frac{\text{Number of central line-days}}{\text{Number of patient-days}}$

† The number in parentheses is the number of locations meeting minimum requirements for percentile distributions (i.e., ≥50 device days for rate distributions, ≥50 patient days for device utilization ratios) if less than total number of locations. If this number is <20, percentile distributions are not calculated.

Table 9

Pooled means and key percentiles of the distribution of ventilator-associated PNEU rates and ventilator utilization ratios for level III NICUs, DA module, 2012

Ventilator-associated PNEU rate *					Percentile				
Birth-weight category	No. of locations †	No. of VAP	Ventilator-days	Pooled mean	10%	25%	50% (median)	75%	90%
≤ 750 grams	157 (133)	97	73,987	1.3	0	0	0	2.0	4.4
751–1000 grams	163 (123)	47	39,689	1.2	0	0	0	0	4.0
1001–1500 grams	167 (95)	14	22,701	0.6	0	0	0	0	2.1
1501–2500 grams	165 (83)	4	20,945	0.2	0	0	0	0	0
> 2500 grams	167 (87)	10	30,305	0.3	0	0	0	0	0

Ventilator utilization ratio ‡					Percentile				
Birth-weight category	No. of locations †	Ventilator-days	Patient-days	Pooled mean	10%	25%	50% (median)	75%	90%
≤ 750 grams	157 (143)	73,987	1,95,281	0.38	0.21	0.28	0.38	0.50	0.65
751–1000 grams	163 (149)	39,689	1,71,975	0.23	0.08	0.14	0.20	0.35	0.48
1001–1500 grams	167 (157)	22,701	2,25,630	0.10	0.02	0.04	0.07	0.14	0.26
1501–2500 grams	165 (163)	20,945	3,08,507	0.07	0.01	0.02	0.04	0.08	0.18
> 2500 grams	167 (162)	30,305	2,72,791	0.11	0.02	0.03	0.06	0.11	0.19

VAP, ventilator-associated pneumonia; *NICU*, neonatal intensive care unit.

*$\frac{\text{Number of VAP}}{\text{Number of ventilator-days}} \times 1000$

‡$\frac{\text{Number of ventilator-days}}{\text{Number of patient-days}}$

†The number in parentheses is the number of locations meeting minimum requirements for percentile distributions (i.e., ≥50 device days for rate distributions, ≥50 patient days for device utilization ratios) if less than total number of locations. If this number is <20, percentile distributions are not calculated.

Table 10

Pooled means and key percentiles of the distribution of ventilator-associated PNEU rates and ventilator utilization ratios for level II/III NICUs, DA module, 2012

Ventilator-associated PNEU rate *					Percentile				
Birth-weight category	No. of locations †	No. of VAP	Ventilator-days	Pooled mean	10%	25%	50% (median)	75%	90%
≤ 750 grams	147 (110)	76	44,399	1.7	0	0	0	2.4	5.8
751–1000 grams	157 (100)	33	23,481	1.4	0	0	0	0	5.6
1001–1500 grams	184 (75)	8	14,065	0.6	0	0	0	0	0
1501–2500 grams	194 (54)	5	12,029	0.4	0	0	0	0	0
> 2500 grams	201 (58)	5	16,163	0.3	0	0	0	0	0

Ventilator utilization ratio ‡					Percentile				
Birth-weight category	No. of locations †	Ventilator-days	Patient-days	Pooled mean	10%	25%	50% (median)	75%	90%
≤ 750 grams	147 (121)	44,399	1,17,397	0.38	0.25	0.30	0.43	0.53	0.71
751–1000 grams	157 (137)	23,481	1,06,652	0.22	0.09	0.16	0.22	0.33	0.45
1001–1500 grams	184 (166)	14,065	1,51,764	0.09	0.03	0.05	0.08	0.14	0.24
1501–2500 grams	194 (188)	12,029	2,46,360	0.05	0.01	0.02	0.03	0.05	0.09
> 2500 grams	201 (189)	16,163	1,94,888	0.08	0.02	0.02	0.05	0.08	0.13

VAP, ventilator-associated pneumonia; *NICU*, neonatal intensive care unit.

*$\frac{\text{Number of VAP}}{\text{Number of ventilator-days}} \times 1000$

‡$\frac{\text{Number of ventilator-days}}{\text{Number of patient-days}}$

†The number in parentheses is the number of locations meeting minimum requirements for percentile distributions (i.e., ≥50 device days for rate distributions, ≥50 patient days for device utilization ratios) if less than total number of locations. If this number is <20, percentile distributions are not calculated.

Table 11

Distribution of criteria for central line-associated laboratory-confirmed BSI by location, 2012

	LCBI				
Type of Location	**Criterion 1 n (%)**		**Criterion 2/3 n (%)**		**Total**
Acute Care Hospitals					
Critical Care					
Burn	251	94.7%	14	5.3%	**265**
Medical -Major teaching	692	87.4%	100	12.6%	**792**
Medical -All other	560	81.9%	124	18.1%	**684**
Medical cardiac	487	77.3%	143	22.7%	**630**
Medical/surgical -Major teaching	803	85.4%	137	14.6%	**940**
Medical/surgical -All other ≤15 beds	996	81.2%	230	18.8%	**1,226**
Medical/surgical -All other > 15 beds	1,542	81.4%	352	18.6%	**1,894**
Neurologic	63	75.9%	20	24.1%	**83**
Neurosurgical	275	76.2%	86	23.8%	**361**
Pediatric cardiothoracic	154	81.5%	35	18.5%	**189**
Pediatric medical	24	82.8%	5	17.2%	**29**
Pediatric medical/surgical	466	81.3%	107	18.7%	**573**
Pediatric surgical	3	100.0%			**3**
Prenatal	1	100.0%			**1**
Respiratory	16	88.9%	2	11.1%	**18**
Surgical -Major teaching	443	83.7%	86	16.3%	**529**
Surgical -All other	276	77.3%	81	22.7%	**357**
Surgical cardiothoracic	657	81.8%	146	18.2%	**803**
Trauma	458	83.7%	89	16.3%	**547**
Step-Down Units					

	LCBI				
Type of Location	**Criterion 1 n (%)**		**Criterion 2/3 n (%)**		**Total**
Adult step-down (post-critical care)	459	87.1%	68	12.9%	**527**
Step-down NICU (level II)	2	50.0%	2	50.0%	**4**
Pediatric step-down (post-critical care)	21	80.8%	5	19.2%	**26**
Inpatient Wards					
Acute stroke	14	93.3%	1	6.7%	**15**
Antenatal			1	100.0%	**1**
Behavioral health/psychiatry	4	80.0%	1	20.0%	**5**
Burn	19	90.5%	2	9.5%	**21**
Gastrointestinal	18	94.7%	1	5.3%	**19**
Genitourinary	13	68.4%	6	31.6%	**19**
Geronotology	2	66.7%	1	33.3%	**3**
Gynecology	5	83.3%	1	16.7%	**6**
Jail	11	91.7%	1	8.3%	**12**
Labor and delivery	0		0		**0**
Labor, delivery, recovery, postpartum suite	4	100.0%	0	0.0%	**4**
Medical	854	88.8%	108	11.2%	**962**
Medical/surgical	1,349	84.7%	243	15.3%	**1,592**
Neurologic	43	79.6%	11	20.4%	**54**
Neurosurgical	37	84.1%	7	15.9%	**44**
Orthopedic	65	83.3%	13	16.7%	**78**
Orthopedic trauma	21	80.8%	5	19.2%	**26**
Pediatric medical	43	89.6%	5	10.4%	**48**
Pediatric medical/surgical	195	86.3%	31	13.7%	**226**
Pediatric orthopedic	1	100.0%			**1**
Pediatric rehabilitation - non-IRF*	8	100.0%			**8**
Pediatric surgical	13	86.7%	2	13.3%	**15**
Postpartum	2	100.0%			**2**
Pulmonary	60	87.0%	9	13.0%	**69**
Rehabilitation - non-IRF*	3	75.0%	1	25.0%	**4**

	LCBI				
Type of Location	**Criterion 1 n (%)**		**Criterion 2/3 n (%)**		**Total**
Surgical	388	85.8%	64	14.2%	**452**
Telemetry	212	88.0%	29	12.0%	**241**
Vascular Surgery	20	95.2%	1	4.8%	**21**
Well-Baby Nursery	0		0		**0**
Chronic Care Units[†]					
Chronic care	14	77.8%	4	22.2%	**18**
Inpatient hospice	0		0		**0**
Ventilator dependent unit	15	100.0%			**15**
Critical Access Hospitals					
Critical care units[‡]	7	70.0%	3	30.0%	**10**
Non-critical care units[§]	16	76.2%	5	23.8%	**21**
Long-Term Acute Care Hospitals[//]					
Adult critical care	132	89.8%	15	10.2%	**147**
Adult ward	1,734	88.2%	233	11.8%	**1,967**
Inpatient Rehabilitation Facilities[¶]					
Adult rehabilitation units - Freestanding	17	100.0%			**17**
Adult rehabilitation units - Within healthcare facility	77	89.5%	9	10.5%	**86**
TOTAL	**14,065**	**84.2%**	**2,645**	**15.8%**	**16,710**

BSI, bloodstream infection; *LCBI*, laboratory-confirmed BSI.[5]

[*] Includes only in-hospital rehabilitation wards that are not defined as inpatient rehabilitation facilities (IRF) per the CMS Inpatient Rehabilitation Facility Quality Reporting Program.

[†] Includes chronic care locations within the general acute care hospital setting.

[‡] Combines all critical care unit types within critical access hospitals.

[§] Combines all units not identified as critical care (e.g., inpatient wards, step-down units) within critical access hospitals.

// Includes free-standing long-term acute care hospitals and long-term acute care locations within the general acute care hospital setting.

¶ Includes free-standing inpatient rehabilitation facilities and inpatient rehabilitation facilities within the acute care hospital setting, as defined by the CMS Inpatient Rehabilitation Facility Quality Reporting Program.

Table 12

Distribution of criteria for permanent and temporary central line-associated laboratory-confirmed BSI by location, 2012

	LCBI				
Type of Location	**Criterion 1 n (%)**		**Criterion 2/3 n (%)**		**Total**
Permanent Central Line					
General hematology/oncology	308	76.6%	94	23.4%	**402**
Hematopoietic stem cell transplant	200	78.1%	56	21.9%	**256**
Pediatric general hematology/oncology	187	72.8%	70	27.2%	**257**
Pediatric hematopoietic stem cell transplant	67	72.0%	26	28.0%	**93**
Solid organ transplant	16	80.0%	4	20.0%	**20**
Solid tumor	11	73.3%	4	26.7%	**15**
Total	**789**	**75.6%**	**254**	**24.4%**	**1,043**
Temporary Central Line					
General hematology/oncology	399	81.3%	92	18.7%	**491**
Hematopoietic stem cell transplant	229	77.9%	65	22.1%	**294**
Pediatric general hematology/oncology	73	77.7%	21	22.3%	**94**
Pediatric hematopoietic stem cell transplant	17	77.3%	5	22.7%	**22**
Solid organ transplant	57	89.1%	7	10.9%	**64**
Solid tumor	10	58.8%	7	41.2%	**17**
Total	**785**	**79.9%**	**197**	**20.1%**	**982**

BSI, bloodstream infection; *LCBI*, laboratory-confirmed BSI.[5]

Table 13

Distribution of specific sites of urinary catheter-associated UTI by location, 2012

Type of location	SUTI n (%)		ABUTI n (%)		Total
Acute Care Hospitals					
Critical care units					
Burn	382	99.5%	2	0.5%	**384**
Medical -Major teaching	2,150	98.6%	31	1.4%	**2,181**
Medical -All other	1,408	97.9%	30	2.1%	**1,438**
Medical cardiac	1,497	98.7%	20	1.3%	**1,517**
Medical/Surgical -Major teaching	2,244	98.4%	36	1.6%	**2,280**
Medical/Surgical -All other, ≤15 beds	2,472	98.1%	49	1.9%	**2,521**
Medical/Surgical -All other, >15 beds	4,323	98.5%	64	1.5%	**4,387**
Neurologic	437	99.1%	4	0.9%	**441**
Neurosurgical	2,459	99.8%	5	0.2%	**2,464**
Pediatric cardiothoracic	60	98.4%	1	1.6%	**61**
Pediatric medical	35	100.0%			**35**
Pediatric medical/surgical	450	99.6%	2	0.4%	**452**
Pediatric surgical	1	100.0%			**1**
Respiratory	29	96.7%	1	3.3%	**30**
Surgical -Major teaching	1,782	99.1%	17	0.9%	**1,799**
Surgical -All other	910	99.1%	8	0.9%	**918**
Surgical cardiothoracic	1,628	98.2%	29	1.8%	**1,657**
Trauma	1,973	99.1%	18	0.9%	**1,991**
Specialty Care Areas/Oncology					
General hematology/oncology	253	98.4%	4	1.6%	**257**
Hematopoietic stem cell transplant	39	95.1%	2	4.9%	**41**

Type of location	SUTI n (%)		ABUTI n (%)		Total
Pediatric general hematology/oncology	9	100.0%			**9**
Pediatric hematopoietic stem cell transplant	1	100.0%			**1**
Solid organ transplant	35	94.6%	2	5.4%	**37**
Solid tumor	58	100.0%			**58**
Step-down Units					
Adult step-down (post-critical care)	1,120	98.3%	19	1.7%	**1,139**
Pediatric step-down (post-critical care)	1	100.0%			**1**
Inpatient Wards					
Acute stroke	25	96.2%	1	3.8%	**26**
Antenatal	2	100.0%			**2**
Behavioral health/psychiatry	31	96.9%	1	3.1%	**32**
Burn	30	93.8%	2	6.3%	**32**
Genitourinary	11	100.0%			**11**
Gerontology	8	100.0%			**8**
Gynecology	25	96.2%	1	3.8%	**26**
Jail	5	83.3%	1	16.7%	**6**
Labor and delivery	15	100.0%			**15**
Labor, delivery, recovery, postpartum suite	30	100.0%			**30**
Medical	1,320	99.0%	14	1.0%	**1,334**
Medical/Surgical	2,711	98.5%	40	1.5%	**2,751**
Neurologic	159	100.0%			**159**
Neurosurgical	175	100.0%			**175**
Orthopedic	422	99.3%	3	0.7%	**425**
Orthopedic trauma	68	100.0%			**68**
Pediatric medical	6	100.0%			**6**
Pediatric medical/surgical	55	100.0%			**55**
Pediatric orthopedic	1	100.0%			**1**
Pediatric rehabilitation - non-IRF*	1	100.0%			**1**
Pediatric surgical	4	100.0%			**4**
Postpartum	61	100.0%			**61**
Pulmonary	87	98.9%	1	1.1%	**88**

Type of location	SUTI n (%)		ABUTI n (%)		Total
Rehabilitation - non-IRF*	28	96.6%	1	3.4%	**29**
Surgical	1,082	98.5%	17	1.5%	**1,099**
Telemetry	390	97.5%	10	2.5%	**400**
Vascular surgery	25	100.0%			**25**
Well-baby nursery					**0**
Chronic Care Units†					
Chronic care	30	96.8%	1	3.2%	**31**
Chronic care rehabilitation unit	6	100.0%			**6**
Inpatient hospice	2	100.0%			**2**
Ventilator dependent unit	39	97.5%	1	2.5%	**40**
Critical Access Hospitals					
Critical care units‡	25	100.0%			**25**
Non-critical care units§	167	96.5%	6	3.5%	**173**
Long-Term Acute Care Hospitals//					
Adult critical care	145	98.0%	3	2.0%	**148**
Adult ward	2,490	98.1%	47	1.9%	**2,537**
Inpatient Rehabilitation Facilities¶					
Adult rehabilitation units - Freestanding	345	99.4%	2	0.6%	**347**
Adult rehabilitation units - Within hospital	560	98.4%	9	1.6%	**569**
Pediatric rehabilitation units - Within hospital	2	100.0%			**2**
TOTAL	**36,344**	**98.6%**	**505**	**1.4%**	**36,849**

UTI, urinary tract infection; *SUTI*, symptomatic UTI; *ABUTI*, asymptomatic bacteremic UTI.[6]

*Includes only in-hospital rehabilitation wards that are not defined as inpatient rehabilitation facilities (IRF) per the CMS Inpatient Rehabilitation Facility Quality Reporting Program.

†Includes chronic care locations within the general acute care hospital setting.

‡Combines all critical care unit types within critical access hospitals.

[§] Combines all units not identified as critical care (e.g., inpatient wards, step-down units) within critical access hospitals.

[//] Includes free-standing long-term acute care hospitals and long-term acute care locations within the general acute care hospital setting.

[¶] Includes free-standing inpatient rehabilitation facilities and inpatient rehabilitation facilities within the acute care hospital setting, as defined by the CMS Inpatient Rehabilitation Facility Quality Reporting Program.

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Table 14

Distribution of specific sites of ventilator-associated pneumonia by location, 2012

Type of location	PNU1 n (%)		PNU2 n (%)		PNU3 n (%)		Total
Acute Care Hospitals							
Critical Care Units							
Burn	25	29.1%	61	70.9%			**86**
Medical -Major teaching	127	62.0%	74	36.1%	4	2.0%	**205**
Medical -All other	119	62.3%	65	34.0%	7	3.7%	**191**
Medical cardiac	88	65.2%	46	34.1%	1	0.7%	**135**
Medical/surgical -Major teaching	208	55.9%	160	43.0%	4	1.1%	**372**
Medical/surgical -All other ≤15 beds	267	63.7%	138	32.9%	14	3.3%	**419**
Medical/surgical -All other >15 beds	454	68.2%	201	30.2%	11	1.7%	**666**
Neurologic	24	38.7%	37	59.7%	1	1.6%	**62**
Neurosurgical	114	54.3%	95	45.2%	1	0.5%	**210**
Pediatric cardiothoracic	6	66.7%	2	22.2%	1	11.1%	**9**
Pediatric medical	1	50.0%	1	50.0%			**2**
Pediatric medical/surgical	80	70.8%	28	24.8%	5	4.4%	**113**
Pediatric surgical	1	100.0%					**1**
Respiratory	4	100.0%					**4**
Surgical -Major teaching	157	56.1%	122	43.6%	1	0.4%	**280**
Surgical -All other	89	46.4%	98	51.0%	5	2.6%	**192**
Surgical cardiothoracic	194	60.8%	119	37.3%	6	1.9%	**319**
Trauma	232	45.7%	275	54.1%	1	0.2%	**508**
Specialty Care Areas/Oncology							
Hematopoietic stem cell transplant							**0**
Step-Down Units							

Type of location	PNU1 n (%)		PNU2 n (%)		PNU3 n (%)		Total
Adult step-down (post-critical care)	26	83.9%	5	16.1%			**31**
Pediatric step-down (post-critical care)	1	100.0%					**1**
Step-down NICU (level II)							**0**
Inpatient Wards							
Medical	2	66.7%	1	33.3%			**3**
Medical/surgical	4	18.2%	17	77.3%	1	4.5%	**22**
Pediatric medical							**0**
Pediatric medical/surgical							**0**
Pulmonary	6	85.7%	1	14.3%	0	0.0%	**7**
Surgical							**0**
Telemetry	1	100.0%					**1**
Critical Access Hospitals							
Critical care units*	3	100.0%					**3**
Non-critical care units†	2	50.0%	1	25.0%	1	25.0%	**4**
Long-Term Acute Care Hospitals‡							
Adult critical care	7	87.5%	1	12.5%			**8**
Adult ward	78	75.7%	24	23.3%	1	1.0%	**103**
Total	**2,320**	**58.6%**	**1,572**	**39.7%**	**65**	**1.6%**	**3,957**

PNU1, clinically defined pneumonia; *PNU2*, pneumonia with specific laboratory findings; *PNU3*, pneumonia in immunocompromised patients.[7]

*Combines all critical care unit types within critical access hospitals.

†Combines all units not identified as critical care (e.g., inpatient wards, step-down units) within critical access hospitals.

‡Includes free-standing long-term acute care hospitals and long-term acute care locations within the general acute care hospital setting.

Table 15

Distribution of specific sites and criteria for central line-associated laboratory-confirmed BSI among Level III NICUs by birthweight, 2012

	LCBI				
Birth-weight category	**Criterion 1 n (%)**		**Criterion 2/3 n (%)**		**Total**
≤ 750 grams	316	75.2%	104	24.8%	**420**
750–1000 grams	176	68.8%	80	31.3%	**256**
1001–1500 grams	135	69.2%	60	30.8%	**195**
1501–2500 grams	76	73.1%	28	26.9%	**104**
> 2500 grams	101	74.3%	35	25.7%	**136**
Total	**804**	**72.4%**	**307**	**27.6%**	**1,111**

BSI, bloodstream infection; *LCBI*, laboratory-confirmed BSI.[5]

Table 16

Distribution of specific sites and criteria for central line-associated laboratory-confirmed BSI among Level II/III NICUs by birthweight, 2012

	LCBI				
Birth-weight category	**Criterion 1 n (%)**		**Criterion 2/3 n (%)**		**Total**
≤ 750 grams	211	70.3%	89	29.7%	**300**
750–1000 grams	127	64.5%	70	35.5%	**197**
1001–1500 grams	73	63.5%	42	36.5%	**115**
1501–2500 grams	49	73.1%	18	26.9%	**67**
> 2500 grams	43	63.2%	25	36.8%	**68**
Total	**503**	**67.3%**	**244**	**32.7%**	**747**

BSI, bloodstream infection; *LCBI*, laboratory-confirmed BSI.[5]

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Table 17

Distribution of specific sites of ventilator-associated pneumonia among Level III NICUs by birthweight, 2012

Birth-weight category	PNU1 n (%)		PNU2 n (%)		PNU3 n (%)		Total
≤ 750 grams	60	61.9%	34	35.1%	3	3.1%	**97**
750–1000 grams	30	63.8%	17	36.2%			**47**
1001–1500 grams	10	71.4%	4	28.6%			**14**
1501–2500 grams	1	25.0%	3	75.0%			**4**
> 2500 grams	7	70.0%	3	30.0%			**10**
Total	**108**	**62.8%**	**61**	**35.5%**	**3**	**1.7%**	**172**

PNU1, clinically defined pneumonia; *PNU2*, pneumonia with specific laboratory findings; *PNU3*, pneumonia in immunocompromised patients.[7]

Table 18

Distribution of specific sites of ventilator-associated pneumonia among Level II/III NICUs by birthweight, 2012

Birth-weight category	PNU1 n (%)		PNU2 n (%)		PNU3 n (%)		Total
≤ 750 grams	54	71.1%	20	26.3%	2	2.6%	**76**
750–1000 grams	29	87.9%	3	9.1%	1	3.0%	**33**
1001–1500 grams	5	62.5%	2	25.0%	1	12.5%	**8**
1501–2500 grams	2	40.0%	2	40.0%	1	20.0%	**5**
> 2500 grams	4	80.0%	1	20.0%			**5**
Total	**94**	**74.0%**	**28**	**22.0%**	**5**	**3.9%**	**127**

PNU1, clinically defined pneumonia; *PNU2*, pneumonia with specific laboratory findings; *PNU3*, pneumonia in immunocompromised patients.[7]